ट्रीय विज्ञान
हालय परिषद

TIONAL COUNCIL OF
IENCE MUSEUMS

वार्षिक 1989
प्रतिवेदन 1990

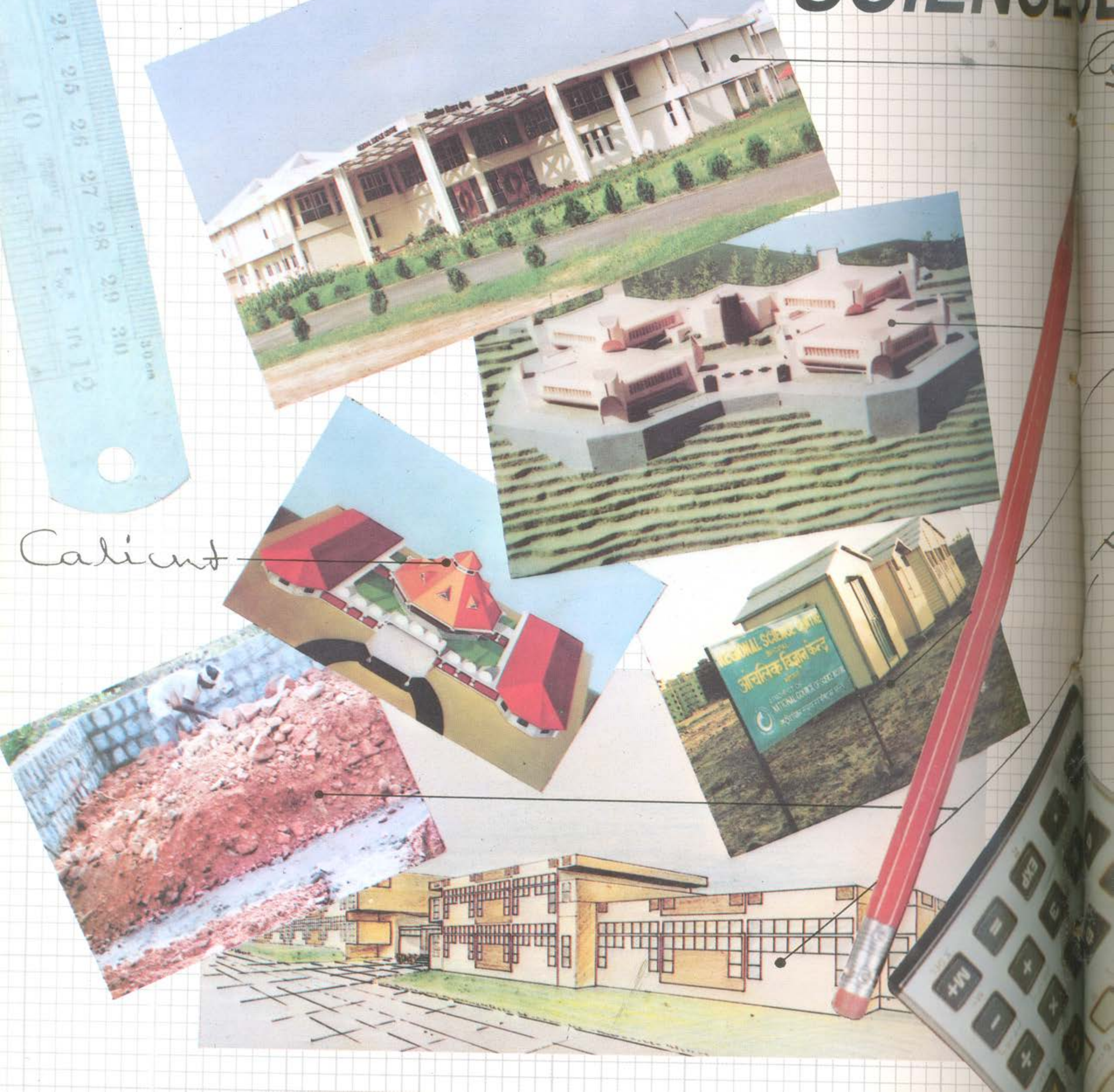
Annual Report



by

DIA

SCIENCE



CENTRES IN THE MAKING

Guwahati

Bhopal

Tirupati

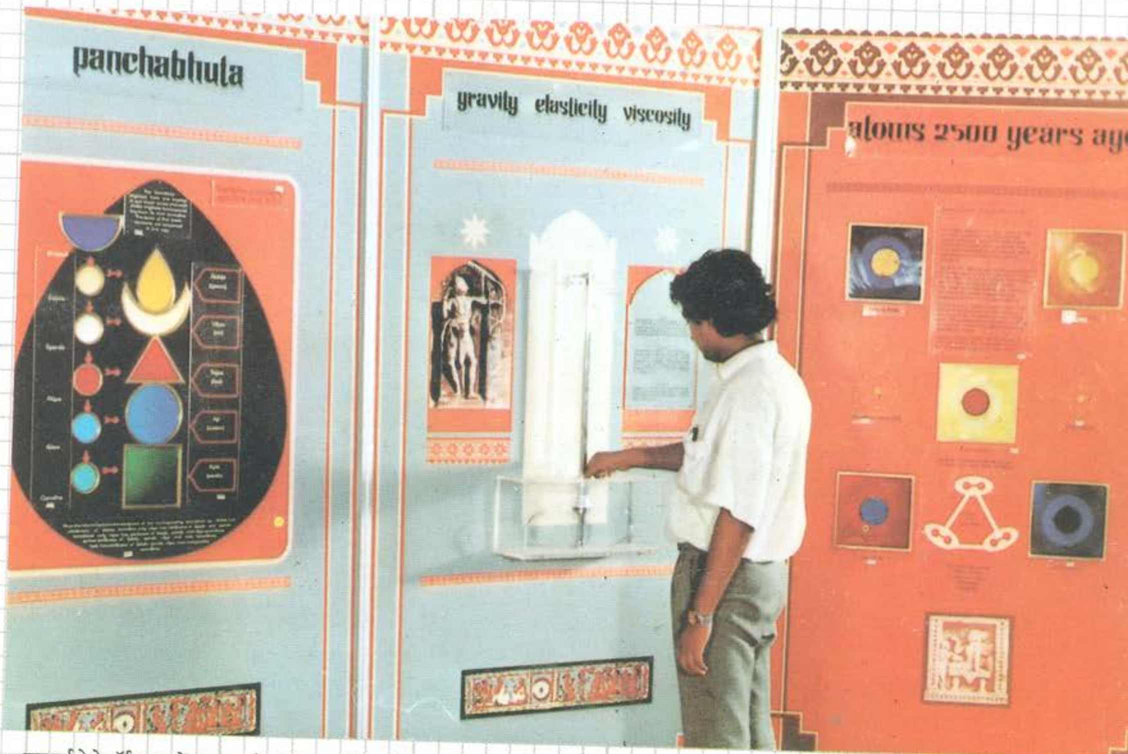
1989-90 ने, जो सातवीं पंचवर्षीय योजना का अंतिम वर्ष था, राष्ट्रीय विज्ञान संग्रहालय परिषद के नियोजित लक्ष्यों की पूर्ति भी देखी । दिल्ली के राष्ट्रीय विज्ञान केंद्र का भव्य सपना, जो राजधानी का एक बड़ा आकर्षण होगा, लगभग पूरा हो चला है । जल्द ही खुलने जा रहा यह केंद्र देश के बड़े उत्तरी हिस्से में अपनी बाह्य गतिविधियां फैलायेगा ।

भारत सरकार के विभिन्न विज्ञान विभागों के अनुरोध पर परिषद ने राष्ट्रीय विज्ञान केंद्र के पास विज्ञान तकनीक तथा ऊर्जा के 12000 वर्ग मीटर के एक स्थायी हॉल की परिकल्पना, डिजाइनिंग की जिम्मेदारी ली है ।

एक वर्ष के रेकॉर्ड समय में कलकत्ता में 50000 वर्ग मीटर की दस तल्ले की केंद्रीय शोध तथा प्रशिक्षण प्रयोगशाला इमारत का पश्चिमी हिस्सा तैयार हो गया ।

दो क्षेत्रीय विज्ञान केंद्र 1989 के सितंबर महीने में भुवनेश्वर तथा लखनऊ में खुल गये । इसी तरह के दो और केंद्र—गुवाहाटी तथा नागपुर में—उद्घाटन के लिए तैयार हैं ।

भोपाल में क्षेत्रीय विज्ञान केंद्र की मुख्य इमारत तथा विज्ञान पार्क का निर्माण-कार्य शुरू हो चुका है । केंद्र की गतिशील विज्ञान प्रदर्शनी इकाई, जिसका 1989 की जुलाई में उद्घाटन हुआ था, मध्यप्रदेश के ग्रामीण क्षेत्र में



It is not without a tinge of pride and satisfaction, that we look back upon the bygone year, during which the attainment of physical targets enabled us to render value-added service to the nation. To see the projects in hand sailing smoothly, was another source of contentment.

1989-90, the final year of the Seventh Five Year Plan, saw the completion of NCSM's planned targets too. The dream castle of the National Science Centre, Delhi, which promises to become a major attraction of the capital is almost completed. Scheduled to be opened shortly, the Centre will take charge of launching outreach activities covering the vast northern part of the country.

On request from various Govt. of India scientific departments, NCSM has undertaken



सक्रिय है । तिरूपति तथा कालिकट में दो क्षेत्रीय केंद्र तथा गोवा, शिमला, इंफाल, विजयवाड़ा में उपक्षेत्रीय विज्ञान केंद्र तैयार हो रहे हैं, जो आठवीं पंचवर्षीय योजना के दौरान पूरे हो जायेंगे । 12 नयी गतिशील विज्ञान प्रदर्शनी इकाइयों की डिजाइन तैयार कर उन्हें योजना काल में विकसित किया गया तथा विभिन्न क्षेत्रीय तथा जिला विज्ञान केंद्रों द्वारा देश के ग्रामीण क्षेत्रों में उनकी सेवा लेने का काम शुरू हुआ । तारामंडल की 25 पोर्टेबल इकाइयों का निर्माण इस वर्ष किया गया तथा अन्य 25 इकाइयों का निर्माण कार्य जारी है ।

इस वर्ष वर्तमान संग्रहालयों तथा केंद्रों का विस्तार तथा विभिन्न इकाइयों में नयी दीर्घाएं जोड़ने का व्यापक काम हुआ । कलकत्ता, बंगलोर तथा बंबई में प्रदर्शन विकास इकाइयों को और मजबूत किया गया । परिषद के 'स्कूल विज्ञान केंद्र' परियोजना के तहत देश के विभिन्न भागों में कमजोर स्कूलों को अपने विज्ञान केंद्र स्थापित करने के लिए मदद दी गयी ।

विकासमूलक कार्यक्रमों के अलावा बाह्य शैक्षणिक कार्यक्रमों का आयोजन परिषद की सभी इकाइयों द्वारा देश भर में किया गया ।

अंतरराष्ट्रीय सहयोगिता कार्यक्रम में इस वर्ष के दौरान काफी प्रगति हुई । 1989 में आइ. सी. ओ. एम. एशिया-प्रशांत संगठन का मुख्यालय टोकियो से कलकत्ता आ गया । इसकी मेजबानी परिषद ने की । नये मुख्यालय से विदेशों में वितरण के लिए विभिन्न महत्वपूर्ण प्रकाशन नियमित रूप से बाहर आ रहे हैं । अमेरिका तथा रूस में यायावर विज्ञान प्रदर्शनियों की सफलता के बाद परिषद ने अब 'भारत विज्ञान की एक झलक' नामक प्रदर्शनी का विकास किया है । पांच वर्ष तक यह विभिन्न यूरोपीय देशों की यात्रा करेगी । इस दौरान परिषद तथा बल्गारिया, चेकोस्लोवाकिया, नीदरलैंड, रूस के बीच सांस्कृतिक आदान-प्रदान के कार्यक्रम भी हुए ।

a turnkey job of conceptualising, designing and setting-up a permanent 12000 sq.mt. Hall of Science Technology and Energy adjacent to the National Science Centre.

Within a record time of one year was completed the western wing of the massive 50000 sq.mt., 10 storied Central Research and Training Laboratory building in Calcutta.

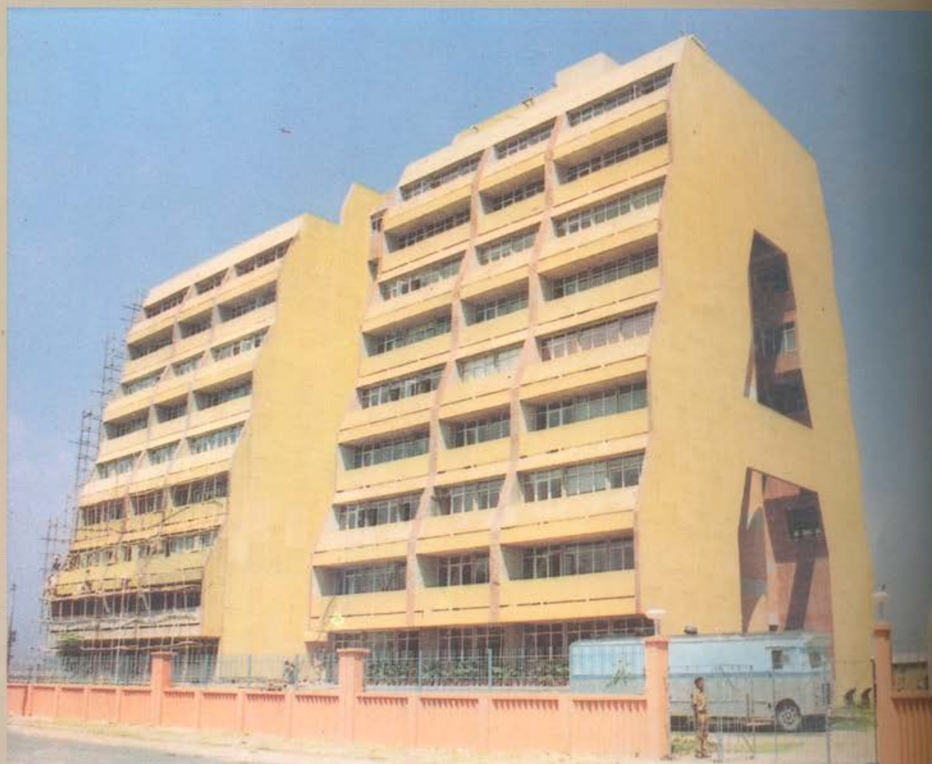
Two regional science centres, the premiers in their respective states were opened at Bhubaneswar and Lucknow in September 1989. Two more such centres, at Guwahati and Nagpur, are ready for inauguration.

Work has begun on the construction of the main building and the science park of the Regional Science Centre in Bhopal. The mobile science exhibition unit of the Centre that was inaugurated in July 1989, is in operation in the rural areas of Madhya Pradesh. Two regional science centres at Tirupati and Calicut and sub-regional science centres at Goa, Simla, Aizwal, Imphal and Vijayawada are also in the making, scheduled to be completed within the Eighth Plan Period. Twelve new mobile science exhibition units were designed and developed during the Plan Period and pressed into service in rural areas of the country by different regional and district science centres. Twentyfive units of Taramandal, the unique portable inflatable planetarium that NCSM introduced a couple of years back for taking interactive planetarium education to the rural doorsteps, were manufactured during the year, and another fifty units are now under production.

Developmental programmes during the year included substantial expansion of existing museums and centres and addition of new galleries to various units. Exhibit development units of the large museums at Calcutta, Bangalore and Bombay have been adequately strengthened for catering to the needs of the evergrowing NCSM Family. Under the unique 'School Science Centre' project of NCSM, catalytic support is being rendered to underprivileged schools in different parts of the country for setting up their own science centres.

Apart from developmental programmes multipronged educational outreach programmes like science fairs and camps, science seminars, nature camps, computer fairs, teachers' training programmes, science demonstration lectures, creative ability centres, vocational training, computer training etc. were vigorously conducted by all the units of NCSM around the country, embracing all social strata.

International collaborative programmes reached unscaled heights during the year. Hosted by NCSM, the headquarter of ICOM Asia-Pacific Organisation was shifted from Tokyo to Calcutta in 1989. Various important publications for international circulation are coming out regularly from the new headquarter. After the resoundingly successful travelling science exhibitions in the USA and USSR, NCSM has now developed an exhibition, "India - A Glimpse of Science" for touring various European countries for a span of five years. Under the auspices of the Indo-US Sub- Commission on Education and Culture a fruitful Indo-US Workshop on Chemistry Exhibits was held at Lawrence Hall of Science, California and the Exploratorium, San Francisco, USA. A host of collaborative programmes between the two countries have also been drawn up, some of which are already on the anvil. Cultural exchange programmes also took place between NCSM and Bulgaria, Czechoslovakia, Netherlands and USSR. NCSM took part in a big way in the 15th General Conference of ICOM held in The Hague during August-September 1989 in which higher responsibilities in the form of memberships and chairmanships of various international committees of ICOM were conferred on several Indian science museum professionals.



Headquarter of National Council of Science Museum

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12. Regional Science Centre, Tirupati
13. Regional Science Centre, Calicut
14. District Science Centre, Purulia
15. District Science Centre, Gulbarga
16. District Science Centre, Dharampur
17. District Science Centre, Tirunelveli
* 18. Sub-Regional Science Centre, Imphal
* 19. Sub-Regional Science Centre, Goa
* 20. Sub-Regional Science Centre, Aizwal
* 21. District Science Centre, Vijayawada
* 22. District Science Centre, Shimla

*** Proposed centres**



EXHIBITS DEVELOPED

	CRTL	Calcutta	Bangalore	Bombay	Delhi	Patna	Bhubaneswar	Nagpur	Lucknow	Guwahati	Purulia	Gulbarga	Dharampur	Tirunelveli	Total
bit	189	63	67	25	50	5	2	12	14	19	6	—	—	27	479
hibit	—	16	12	—	—	—	—	—	2	—	—	—	—	—	30
	—	—	—	3	—	—	—	1	—	—	—	—	—	—	4
	—	7	4	—	—	—	—	—	—	—	—	—	—	—	11
	—	2	—	1	—	3	9	12	3	4	4	6	5	6	55
useums	—	—	—	—	—	—	—	—	—	—	—	9	—	—	9
	189	88	83	29	50	8	11	25	19	23	10	15	5	33	588

BIRLA INDUSTRIAL & TECHNOLOGICAL MUSEUM CALCUTTA

नयी 'इलेक्ट्रॉनिक' दीर्घा के लिए, जो इस केंद्र की 31वीं वर्षगांठ समारोह के अवसर पर खुलेगा, 65 से भी अधिक प्रदर्श तैयार किये गये हैं ।

यहां 'अक्षमता', 'प्लाविका को काटने की नयी तकनीक', 'राधा गोविंद चंद्र का जीवन और कार्य', 'एक भारतीय विमान चालक की पहली उड़ान—शताब्दी की श्रद्धांजलि' तथा 'पत्थर के गीत' पर प्रदर्शनी आयोजित की गयी ।

'श्रवण' पर एक राष्ट्रीय परिसंवाद 14-16 दिसंबर 1989 के दौरान आयोजित किया गया, जिसमें 30 भारतीय तथा विदेशी वैज्ञानिकों ने भाग लिया । योजना आयोग के तत्कालीन सदस्य प्रोफेसर एम जी के मेनन ने परिसंवाद का उद्घाटन किया ।

संग्राहालय ने कलकत्ता समारोह, 1990 में कुछ मॉडलों के साथ हिस्सेदारी निभायी । कलकत्ता के त्रिशताब्दी समारोह में 'कलकत्ता तथा विज्ञान' पर 21-23 दिसंबर 1989 तक परिसंवाद आयोजित किया ।

इस केन्द की 17,000 वर्गमीटर की विशाल इमारत लगभग पूरी हो चुकी है । इसके अलावा तिमारपुर में प्रदर्शों के शोध और विकास के लिए एक व्यापक संरचना की योजना बनायी जा रही है ।



Contestants

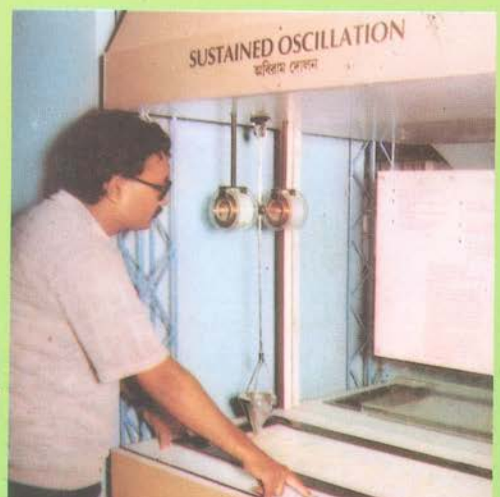
More than 65 exhibits have been fabricated for the new 'Electronics' gallery scheduled to be opened during the 31st anniversary celebration of the Centre.

Exhibitions were organised on 'Disability', 'New Plasma Cutting Technology', 'Life and Works of Radha Gobinda Chandra', 'The First Ascent by an Indian Aeronaut – A Centenary Tribute' and 'The Songs of Stone'.

A national symposium on "Acoustics" was held during December 14-16, 1989 with the participation of 30 scientists from India and abroad. Prof. M G K Menon, then Member, Planning Commission, inaugurated the seminar.

The museum participated in the Calcutta Festival, 1990 with a set of participatory models, an Amateur Radio Station, 3 mobile science exhibitions and a portable planetarium.

As a part of the tercentenary celebration of Calcutta, a seminar was organised on 'Calcutta and Science' during December 21-23, 1989.



Electronics Gallery



Practical Training for Museology students



The giant generator at rest

VISVESVARAYA INDUSTRIAL & TECHNOLOGICAL MUSEUM BANGALORE

ुलाई, 1965 को दक्षिण में अग्रणी विज्ञान संग्रहालय खुला, जिसमें
ुत तकनीक' दीर्घा थी । इसके हिस्सा थे—बुनियादी विद्युत,
—विज्ञान तथा इलेक्ट्रॉनिक्स के अनुप्रयोग ।
े बाद लगातार विकास के त्रुटिहीन 25 साल बीत गये ।
ी रजत जयंती के अवसर पर यहां आधुनिक इलेकट्रो-टेकनिक दीर्घा
जिसमें स्थैतिक विद्युत, चुंबकत्व, धारा विद्युत, ट्रांस्ड्यूसर,
-तंत्र, टेलीग्राफी, वैकुअम ट्यूब इलेक्ट्रॉनिक्स, माइक्रो-प्रोसेसर,
तकनीक, उपभोक्ता इलेक्ट्रॉनिक्स, रेडियो, टेलीविजन तथा अंतरिक्ष
 80 प्रदर्श हैं ।

नयी दीर्घा 22 दिसंबर, 1989 को खुली ।



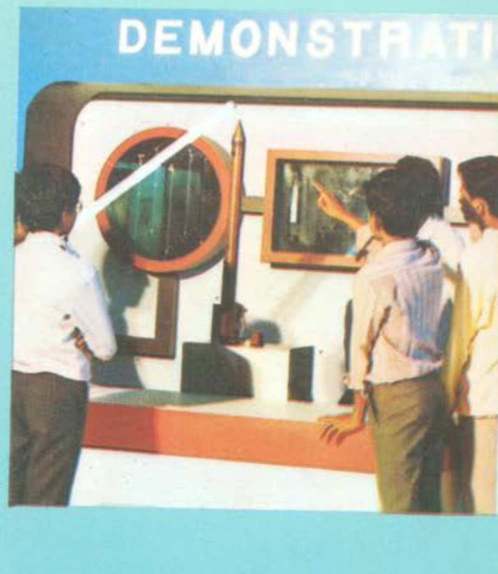
On July 27, 1965 the premier science museum in the South opened its portals with a gallery on Electro-Technic which comprised exhibits on basic electricity, telephony and applications of electronics with the then state of the art technology.

Then followed 25 years of unfaltering service and steady growth.

Today, a glorious Silver Jubilee celebration is marked by a thoroughly reconceived and updated Electro-Technic Gallery with 80 exhibits on static electricity, magnetism, current electricity, electrical transducers, telephony, telegraphy, vacuum tube electronics, solid-state electronics, micro-processors, computer technology, consumer electronics, radio, television and space communications. The new gallery having floor-area of about 600 sq.ft. had a gala opening on December 20, 1989.







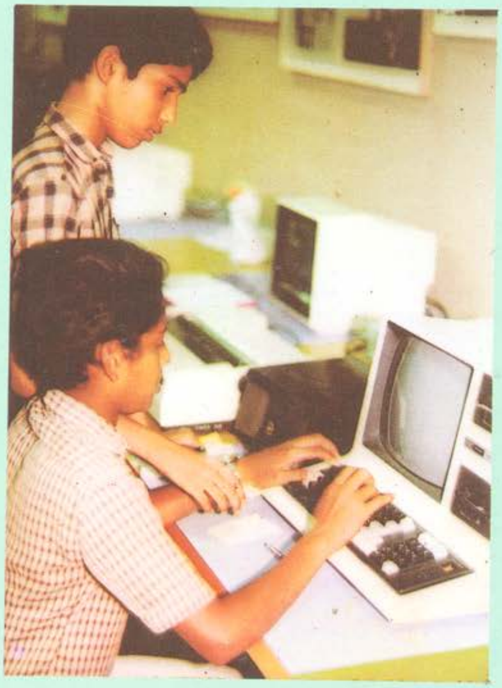
NEHRU SCIENCE CENTRE BOMBAY

विस्तृत शैक्षणिक कार्यक्रम—मसलन विज्ञान प्रदर्शन व्याख्यान, लोकप्रिय विज्ञान व्याख्यान, विज्ञान परिसंवाद, विज्ञान कैंप, छुट्टियों के हॉबी कोर्स, कंप्यूटर जागृति कार्यक्रम, गतिशील विज्ञान प्रदर्शनियां, विज्ञान फिल्म समारोह तथा आकाश परिलक्षण कार्यक्रम-वर्ष की उपलब्धि रहे ।

केंद्र ने रमण विज्ञान केंद्र, नागपुर की 'छतरी' दीर्घा के लिए प्रदर्शों का निर्माण किया और प्रतिस्थापना की । तमिलनाडु विज्ञान तथा तकनीकी केंद्र को 24 प्रदर्श निर्मित कर भेजे गये ।

'विज्ञान की शिक्षा में विकास' पर एक संगोष्ठी तथा 'विज्ञान क्लब की गतिविधियां' पर एक कार्यशाला आयोजित की गयी । पश्चिम भारत विज्ञान मेले का भी सफल आयोजन किया गया ।

इस वर्ष दर्शकों में छह प्रतिशत की वृद्धि केंद्र की बढ़ती लोकप्रियता का सूचक है ।

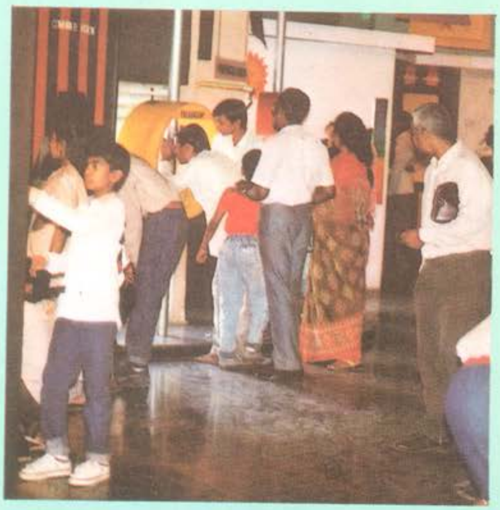


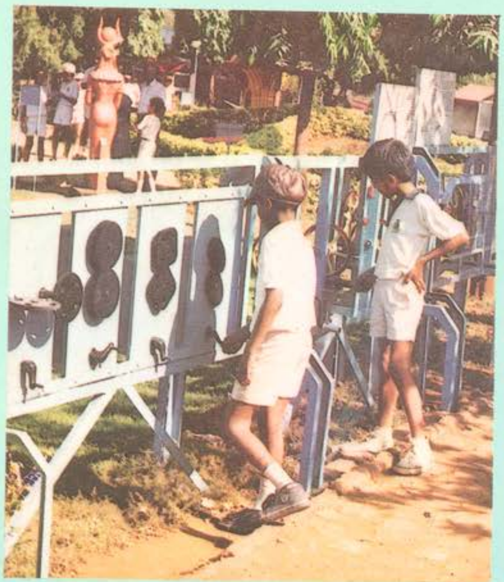
A wide spectrum of educational programmes such as science demonstration lectures, teachers' training programmes, science quiz contest, popular science lectures, science seminar, science camp, vacation hobby courses, computer awareness programmes, mobile science exhibitions, science film festivals and sky observation programmes marked a precious year of untiring efforts and consequent gains.

The Centre completed fabrication and installation of exhibits for the 'Umbrella' gallery of Raman Science Centre, Nagpur. A set of 24 exhibits for the mobile science exhibition on 'Perception' was fabricated and transferred to Tamil Nadu Science and Technology Centre.

A symposium on "Developments in Science Education" and a workshop on "Science Club Activities" were organised. The Western India Science Fair was organised with great success.

6 per cent increase in visitors' attendence this year stands testimony to the Centre's growing popularity.







…ा क्रांति' पर एक नयी दीर्घा की डिजाइन और विकास को …थमिकता दी गयी । यह इतिहास—आधारित प्रदर्श है, जिसे भारत …विज्ञान संग्रहालय द्वारा पहली बार विकसित किया गया ।

…लिन इंस्टीट्यूट, फिलाड्रेल्फिया से 'संरचना' पर एक अस्थायी प्रदर्शनी … जिसे दर्शकों के लिए स्थापित किया गया ।

…टर प्रशिक्षण कार्यक्रम, विज्ञान प्रश्नोत्तर प्रतियोगिता, वीडियो … आकाश निरीक्षण कार्यक्रम, लोकप्रिय व्याख्यान, शिक्षक प्रशिक्षण …जैसे अनेक कार्यक्रम वर्ष के दौरान आयोजित हुए ।

…esign and development of a new gallery on 'Information Revolution' was taken up … utmost priority. This is a strongly …ry-based exhibit developed for the first time by the science museums in India. The exhibition is graced by a large number of artefacts of historical interest.

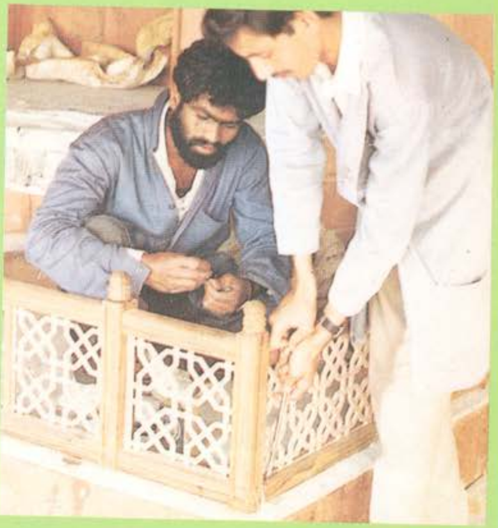
A temporary exhibition on 'Structures' was received from the Franklin Institute, Philadelphia and was set up for display.

Computer training programmes, science quiz contest, video programmes, sky observation programmes, popular lectures, teachers' training programmes, amateur radio activities and many such events marked a brisk year for the Centre.

The massive 17,000 sq. mt. building, adding a new feature to the outline of the city, is nearing completion. In addition, a large infrastructure for research and development of exhibits is being planned at Timarpur.









REGIONAL SCIENCE CENTRE BHUBANESWAR

18 सितंबर, 1989 को उद्घाटित क्षेत्रीय विज्ञान केंद्र आकर्षण का बड़ा केंद्र साबित हुआ । उड़ीसा में पहले विज्ञान केंद्र की स्थापना के साथ, राज्य के लोगों की बहुप्रतीक्षित मांग पूरी हुई ।

केंद्र के पास चार प्रदर्शनी हॉल हैं, जिनमें से दो 'सूर्य' को समर्पित हैं । यहां सूर्य को व्याख्यायित करने वाले, ब्रह्मांड का निर्माण, तारों और ग्रहों से जुड़ी प्रक्रियाओं को दरसाने वाले प्रदर्श भी हैं ।

तीसरे हॉल में सामान्य यांत्रिकी तथा भौतिकीय विज्ञान पर हिस्सेदारी निभाने वाले प्रदर्श हैं । चौथा हॉल तारामंडल के प्रदर्शन के लिए है ।

Inaugurated on September 18, 1989, the Regional Science Centre has already proved to be a great attraction, judging by the attendance and participation of visitors. With the establishment of the first science centre in Orissa, a long standing requirement of the people of the state has been fulfilled.

The Centre has four exhibition halls out of which two are dedicated to the 'Sun'. Interactive, hands-on exhibits, many utilizing electronic and microprocessor control, explain and elucidate topics dealing with the Sun, the creation of the universe, and various phenomena related to stars and planets.

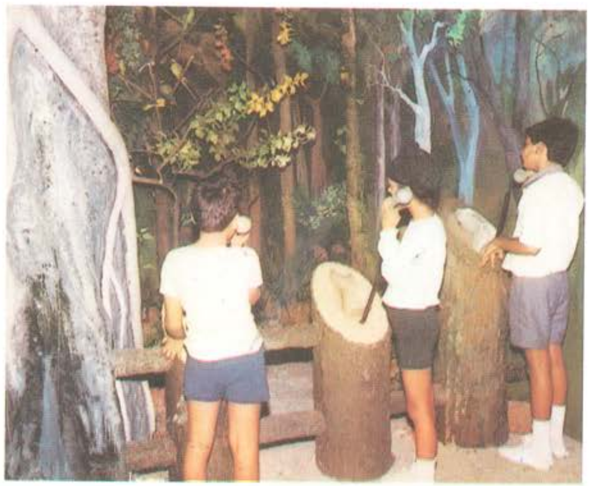
The third hall contains participatory exhibits on simple mechanics and physical science and the fourth hall is designated for interactive planetarium demonstrations.

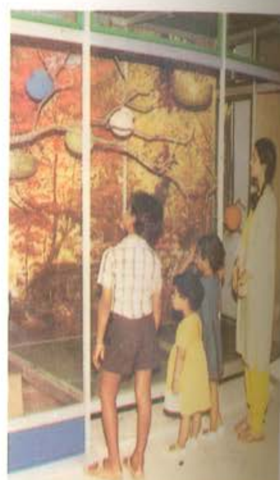












REGIONAL SCIENCE CENTRE LUCKNOW

आखिर प्रतीक्षा समाप्त हुई। 7 सितंबर 1989 को उत्तरप्रदेश के पहले विज्ञान केंद्र का औपचारिक उद्घाटन हुआ । इस योजना को पूरा करने में राष्ट्रीय परिषद को लगभग चार वर्ष लगे ।

इस केंद्र का मूल प्रदर्श है 'अक्वामोबाइल' (जल-गतिशीलता), हां जल घूमता है और टरबाइन के पहियों को घुमाता है, लेंस बनाता है, र बनाता है, साइफनों तथा झरनों को सक्रिय रखता है, आदि ।

केंद्र के दो मुख्य आकर्षण हैं—रचनात्मक क्षमता केंद्र तथा जीव मित्र डल ।

राष्ट्रीय विज्ञान दिवस तथा बाल दिवस पर रंगारंग कार्यक्रमों का योजन हुआ ।

Waiting was over at last. On September 7, 1989, the first Science Centre in ltar Pradesh was formally inaugurated. It ook NCSM about four years to complete he project.

'Aquamobile' is the theme exhibit of the entre where water rolls and turns turbine heels, forms a lens, creates vortex, sets in ction syphons and fountains, generates aves and performs like a virtuoso acrobat n a circus, itself taking myriad shapes in the rocess.

The Creative Ability Centre and Jeev litra Mandal (Friends of Animals) are two f the major attractions of the Centre.

Colourful multifarious programmes were rganised for school children on the Chil-ren's Day and on the National Science Day.







Aquamobile

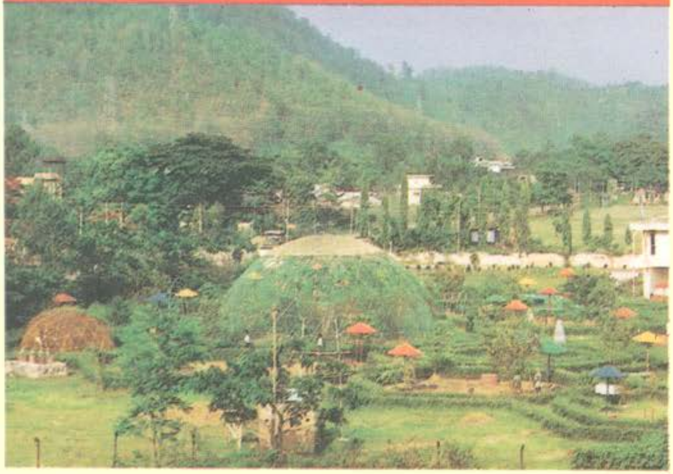






W I D E N I N G S C I E

REGIONAL SCIENCE CENTRE GUWAHATI



DISTRICT SCIENCE CENTRE DHARAMPUR





DISTRICT SCIENCE CENTRE PURULIA







SHRIKRISHNA SCIENCE CENTRE
TNA



परिषद की इकाइयों में विज्ञान को लोकप्रिय बनाने के वृहत कार्यक्रमों को प्रमुखता दी गयी । ये इकाइयां हैं—पटना का श्रीकृष्ण विज्ञान केंद्र, गुंवाहाटी का क्षेत्रीय विज्ञान केंद्र, तथा पुरुलिया, गुलबर्गा, धर्मपुर, तिरुनेलवेलि के जिला विज्ञान केंद्र ।

गुवाहाटी का विज्ञान केंद्र अगले वर्ष खुलने के लिए पूरी तरह तैयार है ।

Launching extensive science popularising programmes was of paramount importance to the NCSM units – the Shrikrishna Science Centre at Patna, Regional Science Centre at Guwahati and the District Science Centres at Purulia, Gulbarga, Dharampur and Tirunelveli.

The science centre at Guwahati is all set to be opened next year.

DISTRICT SCIENCE CENTRE
ULBARGA



DISTRICT SCIENCE CENTRE
TIRUNELVELI



RAMAN SCIENCE CENTRE NAGPUR



महाराष्ट्र में अब दूसरा विज्ञान केंद्र पूरी तरह तैयार है । जल्दी ही इसका औपचारिक उद्घाटन होगा ।

पहले चरण में 1500 वर्ग मीटर निर्मित क्षेत्र में प्रदर्शनी हॉल बनाये गये हैं । 'छतरी' दीर्घा में रखे प्रदर्श पृथ्वी के वायुमंडल में होने वाले अंतरिक्षीय घटनाओं को विश्लेषित करते हैं । इन प्रदर्शों के जरिये दर्शक हवा की बनावट और वजन, हवा के दबाव और तापमान के बीच संबंध तथा प्रदूषण के तत्वों को समझ सकते हैं, जो पृथ्वी पर जीवन को नुकसान पहुंचाते हैं ।

यहां साढ़े पांच एकड़ में बच्चों के लिए एक विज्ञान पार्क भी है ।

Now that the second science centre in the state of Maharashtra is thoroughly ready to provide the public with a stimulating environment for the learning of science, formal inauguration is expected to be held in a very short time.



The centre houses the exhibition halls in a built-up area of 1500 sq.mt. in the first phase. The 'Umbrella' gallery abounds in hands-on exhibits which depict the cosmic drama in the atmosphere that surrounds the planet Earth. With these exhibits, visitors can ascertain the weight and the composition of air, the relationship between pressure and temperature of air and detect the pollutants that may destroy the protective umbrella, ruining life forms on earth.

A large science park sprawling over five and a half acres of lush green landscape provides the children with an opportunity to play with an array of outdoor exhibits on physical science.







RAL RESEARCH & TRAINING LABORATORY

·R·T·L

A L C U T T A

ीय शोध तथा प्रशिक्षण प्रयोगशाला का काम सालों भर प्रशिक्षण की सुविधाएं मुहैया कराने से लेकर देश भर के विभिन्न विज्ञान पार्कों द्रों को देने के लिए व्यापक पैमाने पर आदिप्ररूप प्रदर्शों का विकास है।

89-90 के दौरान कोई 90 प्रदर्श तैयार किये गये और भुवनेश्वर, , लखनऊ, नागपुर, तिरूनेलवेलि विज्ञान केंद्रों तथा बी एम बिड़ला केंद्र, हैदराबाद को भेजे गये ।

मनोरंजक विज्ञान प्रदर्शों को विकसित कर उन्हें सॉल्ट लेक की प्रदर्शनी ा-300' में प्रदर्शित किया गया ।

त विज्ञान की एक झलक' प्रदर्शनी तैयार कर राष्ट्रीय विज्ञान केंद्र, को भेजी गयी । इसी थीम पर आधारित प्रदर्शों का विकास यूरोप भेजने किया जा रहा है ।

द की विभिन्न इकाइयों के संग्रहाध्यक्षों के लिए किट विकास तथा क निर्माण की तकनीक के प्रशिक्षण कार्यक्रम चलाये गये ।

के दौरान तारामंडल, स्कूल विज्ञान केंद्र तथा छपाई कार्यशाला पर कार्यक्रम चलाये गये ।

ctivities at the Central Research and Training Laboratory are extensive, racing all the vital aspects of a science re. Its functions range from providing round training facilities, to large-scale lopment of prototype exhibits for feeding rent science centres and science parks s the country.

uring 1989-90, some 90 exhibits were fabri- d and sent to the science centres at baneswar, Guwahati, Lucknow, Nagpur, nelveli and B.M. Birla Science Centre, erabad.

Fun Science exhibits were developed and ayed in the 'Calcutta-300' exhibition at the Lake Stadium.

e exhibition on 'India: A Glimpse of Sci- ' was fabricated and despatched to onal Science Centre, Delhi. Another set of bits illustrating the same theme is being loped for despatch to Europe.

aining programmes on kit development acrylic fabrication techniques were con- ed for curators of different NCSM units.

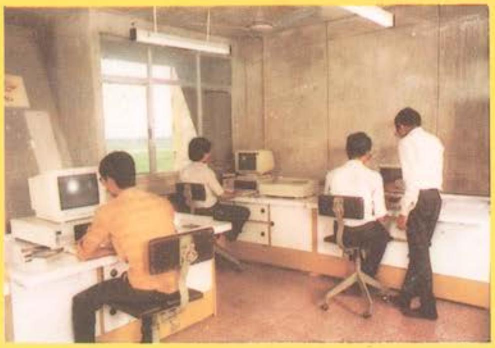
aining programmes on Taramandal, ol Science Centre, and screen printing shop for ICOM members were also nised during the year.

















SCIENCE FAIR AND CAMP

परिषद ने कलकत्ता में पूर्वी भारत विज्ञान कैंप, बंगलोर में दक्षिणी भारत विज्ञान मेला तथा बंबई में पश्चिमी भारत विज्ञान कैंप लगवा कर विद्यार्थियों को अपनी प्रतिभा दिखाने का मौका दिया । इनमें 944 विद्यार्थियों तथा शिक्षकों ने भाग लिया ।

इतना ही रोमांचकारी रहा बिड़ला औद्योगिक तथा तकनीकी संग्रहालय, कलकत्ता द्वारा कंप्यूटर मेले का आयोजन । मेले में 85 स्कूलों तथा पांच विज्ञान क्लबों ने हिस्सा लिया । उनका उत्साह बढ़ाने के लिए छात्रवृत्तियां तथा पुरस्कार भी दिये गये ।

Winter was a gala season this year also, with NCSM providing the great treats – the Eastern India Science Camp at Calcutta, the Southern India Science Fair at Bangalore and the Western India Science Fair at Bombay – all tailored to inspire the students to display their inventive genius. The events involved a total participation of 944 students and teachers.

Equally thrilling was the Computer Fair organised by Birla Industrial & Technological Museum, Calcutta. Youngsters from 85 schools and 5 science clubs took part in the Fair. Awards and scholarships were there to encourage the budding computer enthusiasts.











EDUCATIONAL ACTIVITIE

	Calcutta	Bangalore	Bombay	Delhi	Patna	Bhubaneswar	Nagpur	Lucknow	Purulia	Gulbarga	Dharampur	Tirunelveli	Bhopa
Science Demonstration Lecture	241	402	84	—	97	15	—	—	39	97	46	71	6
No. of Teachers Trained	55	45	79	—	16	—	—	—	19	71	38	54	—
No. of Teaching Aids Developed	221	45	116	—	101	—	—	—	38	9	152	161	—
Popular Lecture	29	23	11	—	9	—	—	—	4	15	9	30	—
Film Show in Museum	350	935	734	4	542	211	3	130	306	709	435	879	—
Sky Observation Programme	46	32	72	—	36	5	49	34	58	90	55	120	8

ATIONAL SCIENCE SEMINAR AND TRAINING PROGRAMMES



परिसंवाद के अंतिम दौर में भाग लेने के लिए 8 अक्तूबर देश भर से हजारों युवा चिंतक बंगलोर के विश्वेश्वरैया तकनीकी संग्रहालय में इकट्ठा हुए । इस वर्ष का विषय क ऊर्जा-संभावना तथा जोखिम ।'
के सभी राज्यों और केंद्र शासित प्रदेशों से, प्रखंड, जिला तथा योगिताओं में शामिल हो कर चुने हुए लोग आये थे । अंतिम र विद्यार्थियों ने भाग लिया ।

ण कार्यक्रम

के दौरान परिषद द्वारा आयोजित शिक्षक प्रशिक्षण के 17 भर के स्कूलों के 354 शिक्षक प्रशिक्षित किये गये ।

क्षण कार्यक्रम

तहत परिषद की सारी इकाइयों के संग्रहाध्यक्षों और शिक्षा सुवाह्य तारामंडल के संचालन और रख-रखाव का प्रशिक्षण

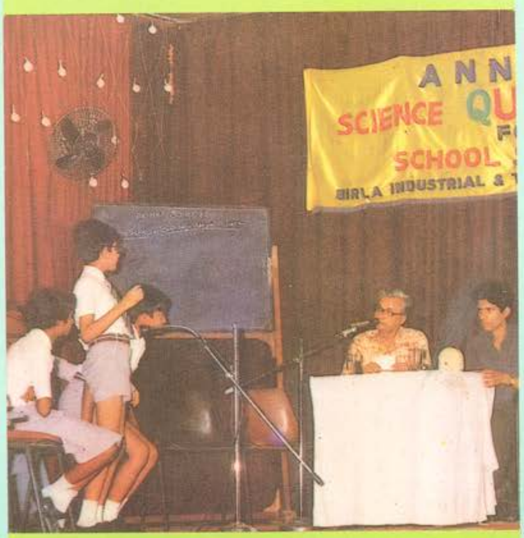
ना देश भर में इसे इस्तेमाल करने वाले 20 अन्य को प्रशिक्षण ।





nds of young thinkers from all over country assembled at Visvesvaraya and Technological Museum, Banga- ctober 8, 1989 for the final round of n in the National Science Seminar. this year was 'Atomic Energy – ies and Hazards'.
states and union territories of India sented in this major event which was nation of the successive stages of rict and state level contests. The final n was held among 32 students.
chers from schools scattered all over y were trained in the 17 Teachers' Programmes which NCSM conducted 39-90.
Taramandal Training Programmes, garding operation and maintenance table planetarium was provided to nd Education Officers of all the units

training facilities were extended to sers from all over the country.





SCIENCE ON WHEELS

देश के दूर-दराज के इलाकों में विज्ञान का संदेश ले जाने में गतिशील विज्ञान प्रदर्शनियों की 13 इकाइयां लगी रहीं । गांवों तथा क्लबों में इन्हें व्यापक सफलता मिली । इस वर्ष भी इनके नेटवर्क का विस्तार किया गया । लखनऊ (उत्तरप्रदेश) तथा भोपाल (मध्यप्रदेश) के आसपास के अजाने इलाकों में 2 नयी इकाइयां सक्रिय रहीं ।



In an all-out effort to carry the mes sage of science even to th remotest regions, 13 Mobile Scienc Exhibition units are crisscrossing th length and breadth of the countr and are a big hit among the rural an the suburban populace. The MS network has expanded this year als with 2 new units traversing th hitherto unexplored regions su rounding Lucknow in Uttar Prades and Bhopal in Madhya Pradesh.





MOBILE SCIENCE EXHIBITIO

	Calcutta	Bangalore	Bombay	Delhi	Patna	Bhubaneswar	Nagpur	Lucknow	Purulia	Tirunelveli	Bhopal
No. of Exhibition Site	75	62	73	28	48	55	26	22	—	67	44
No. of Exhibition Day	217	211	186	45	145	146	162	75	2	217	99
No. of Film Show	89	58	163	45	135	102	67	60	—	666	106
No. of Visitors to Exhibition	116661	225386	174951	24111	54149	134596	87036	38539	836	221246	98685
No. of Visitors to Film Show	39500	38383	58859	9640	38440	28492	21340	11275	—	122521	30695
Distance Travelled (in Km.)	5024	3133	5681	858	1564	2059	1464	512	—	1352	2258

ATIONAL SCIENCE DAY

विज्ञान की दुनिया में 28 फरवरी, 1928 को एक नये युग का प्रारंभ हुआ, जब प्रोफेसर सी वी. रमण ने 'रमण प्रभाव' की घोषणा की ।

हर वर्ष की तरह इस बार भी परिषद के सारे विज्ञान केंद्रों ने 28 फरवरी को विज्ञान दिवस के रूप में मनाया । हजारों छात्रों, शिक्षकों, प्रबुद्ध वैज्ञानिकों तथा जन साधारण ने विज्ञान मार्च, गतिशील नाटकों, बैठो और आंको, दिखाओ और बताओ, विज्ञान प्रश्नोत्तर, पोशाक परेड, अंतरिक्ष विज्ञान कार्यशाला, तारामंडल शो, लोकप्रिय व्याख्यानों तथा ऐसे कई अन्य कार्यक्रमों में भाग लिया ।







A new era was inaugurated in the field of science with Professor C.V. Raman announcing the 'Raman Effect' on February 28, 1928.

The prestigious event was appropriately recalled by all the science centres of NCSM and February 28 was celebrated as in the previous years as the National Science Day. With a burst of enthusiasm, thousands of students, teachers, eminent scientists and common people spontaneously participated in a host of science popularising programmes comprising spectacular Science March, mobile dramas, sit and draw, show and tell, science quiz, costume parade, astronomy workshop, planetarium shows, popular lectures and many such events.

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24. **Prof. Ashok Chandra**
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* 25. **Dr. Saroj Ghose**
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(Ex-Officio)

26. **Shri T.K. Ray**
Secretary
National Council of Science Museums
Block GN,
Sector-V
Bidhan Nagar
Calcutta-700091
(Non-Member Secretary)

* **Represents Members of the Governing Body.**

STATIS

	H.Qrs.	CRTL	CALCUTTA	BANGALORE	BOMBAY	DELHI
Non-Plan Gross Expenditure (Rs. Lakhs)	42.34	—	93.38	52.37	50.12	15.81
Plan Gross Expenditure (Rs. Lakhs)	161.24	30.53	30.43	41.26	27.57	321.60
Total Staff	48	61	185	125	93	75
Floor Area (Sq. mt.)	3000	9000	6000	7600	12000	17000
Visitor to Museum	—	—	216880	1035714	303036	–
Visitor to Mobile Science Exhibition	—	—	156161	263769	233810	33751

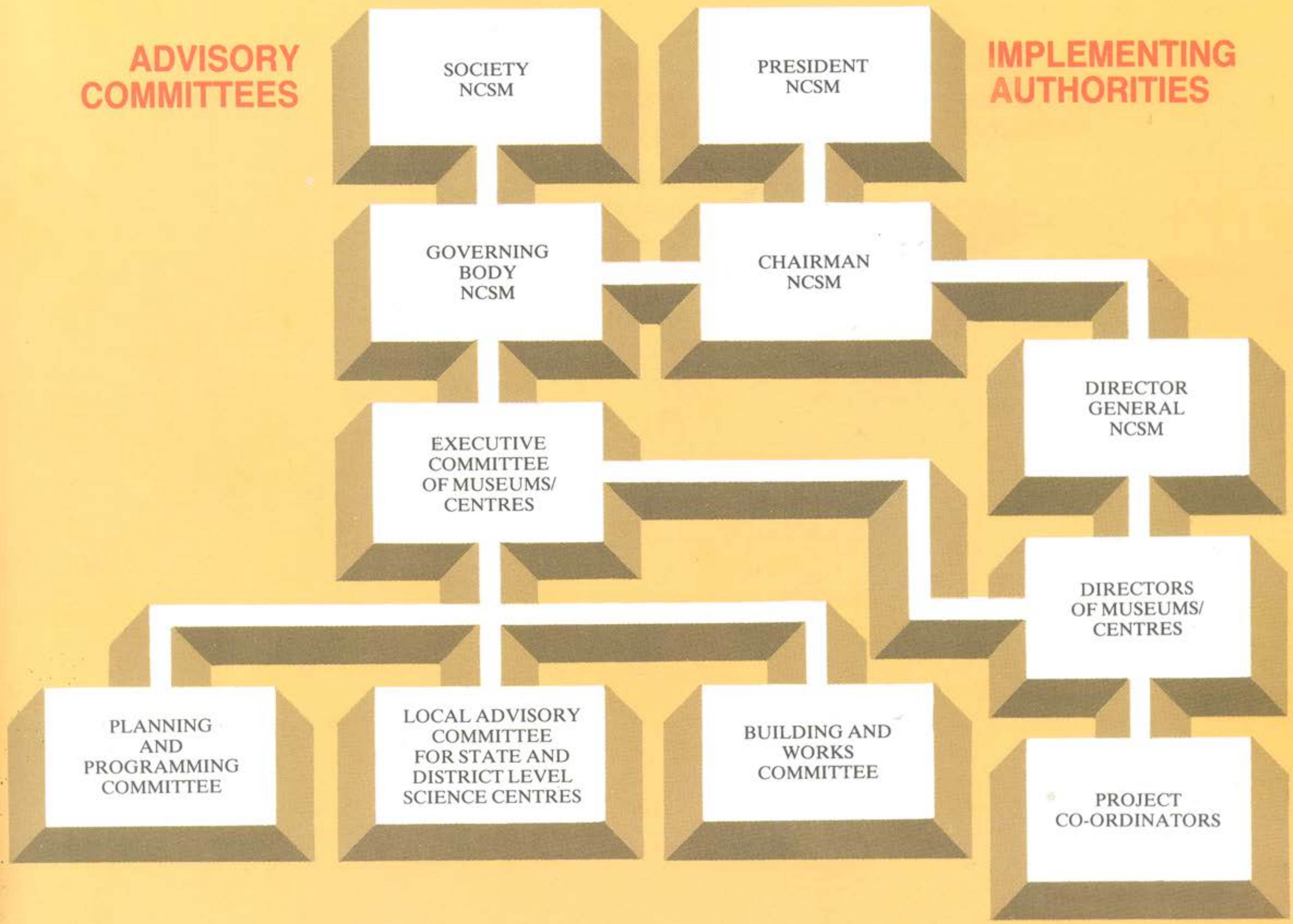
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R G A N I S A T I O N   C H A R T



C S   A T   A   G L A N C E

ELHI	NAGPUR	LUCKNOW	GUWAHATI	PURULIA	GULBARGA	DHARAMPUR	TIRUNELVELI	BHOPAL	TIRUPATI	CALICUT	GOA	VIJAYAWADA	TOTAL
15.81	—	—	—	3.45	3.73	2.90	3.38	—	—	—	—	—	274.25
21.60	30.65	31.26	30.64	1.29	1.23	1.86	4.65	27.72	4.83	0.18	0.17	0.09	790.14
75	12	19	12	9	10	6	11	6	1	—	—	—	713
7000	1512	4090	3903	1600	1000	1500	1200	—	—	—	—	—	74622
—	187017	34520	—	350423	100427	253945	122447	—	—	—	—	—	2817396
3751	108376	49814	—	836	—	—	343767	129380	—	—	—	—	1575341

THE NCSM FAMILY

NATIONAL COUNCIL OF SCIENCE MUSEUMS

Sector V, Block GN,
Bidhan Nagar,
Calcutta-700 091

Set up in 1978 as an autonomus organisation to develop and administer a chain of science museums and centres at National, State and District levels.

CENTRAL RESEARCH & TRAINING LABORATORY

Sector V, Block GN,
Bidhan Nagar,
Calcutta-700 091.

BIRLA INDUSTRIAL & TECHNOLOGICAL MUSEUM

19A, Gurusaday Road,
Calcutta- 700 019
Exhibition Hours :
10 a.m. to 5.30 p.m.
Monday closed.
Entry Fee :
Rs. 2.00 for Galleries,
Re. 1.00 for Coal Mine.
Free for organized student groups.

VISVESVARAYA INDUSTRIAL & TECHNOLOGICAL MUSEUM

Kasturba Road,
Bangalore- 560 001
Exhibition Hours :
10 a.m. to 5-30 p.m.
Monday closed.
Entry Fee : Re. 1.00 for visitors.
Free for organized student groups.

NEHRU SCIENCE CENTRE

Dr. E. Moses Road, Worli,
Bombay-400 018
Exhibition Hours :
11-30 a.m. to 7 p.m.
Monday closed.
Entry Fee : Rs. 2.00 for visitors.
Free for organized student groups.

NATIONAL SCIENCE CENTRE, DELHI

Pragati Maidan,
Near Gate No. 1,
Bhairon Road,
New Delhi-110 001

SHRIKRISHNA SCIENCE CENTRE, PATNA

West Gandhi Maidan,
Patna-800 001
Exhibition Hours :
11-30 a.m. to 7 p.m.
Monday Closed.
Entry Fee :
Re 0.50 for visitors.

REGIONAL SCIENCE CENTRE, LUCKNOW

Aliganj Extension Sector E,
Lucknow-226 020

REGIONAL SCIENCE CENTRE, BHUBANESWAR

Sachivalaya Marg,
Bhubaneswar-751 013

RAMAN SCIENCE CENTRE, NAGPUR

Awaiting Inauguration.
Opp. Gandhi Sagar
Near Phule Market
Nagpur-440 018

REGIONAL SCIENCE CENTRE, GUWAHATI

Awaiting Inauguration.
Jawaharnagar, Khanapara,
Guwahati-781 022.

REGIONAL SCIENCE CENTRE, BHOPAL

E-3/3, Arera Colony,
Bhopal-462016



The new Electronics Gallery, BITM

REGIONAL SCIENCE CENTRE, TIRUPATI

Quarter No. 66, University,
Quarters,
Prakasam Nagar,
S.V. University Campus,
Tirupati-517 502.

DISTRICT SCIENCE CENTRE, PURULIA

North Lake Road,
Purulia,
Pin : 723 101
West Bengal
Exhibition Hours :
11 a.m. to 6.30 p.m.
Monday closed.

DISTRICT SCIENCE CENTRE, GULBARGA

Municipal Garden,
Gulbarga-585 103,
Karnataka
Exhibition Hours :
11-30 a.m. to 7 p.m.
Monday Closed

DISTRICT SCIENCE CENTRE, DHARAMPUR

Garden Road,
Dharmapur-396 050
Dist. Valsad, Gujrat.
Exhibition Hours :
11-30 a.m. to 7 p.m.
Monday Closed.

DISTRICT SCIENCE CENTRE, TIRUNELVELI

National Highway No. 7
Kokkirakulam,
Tirunelveli-627 009,
Tamilnadu.
Exhibition Hours :
11-30 a.m. to 7 p.m.
Monday Closed.

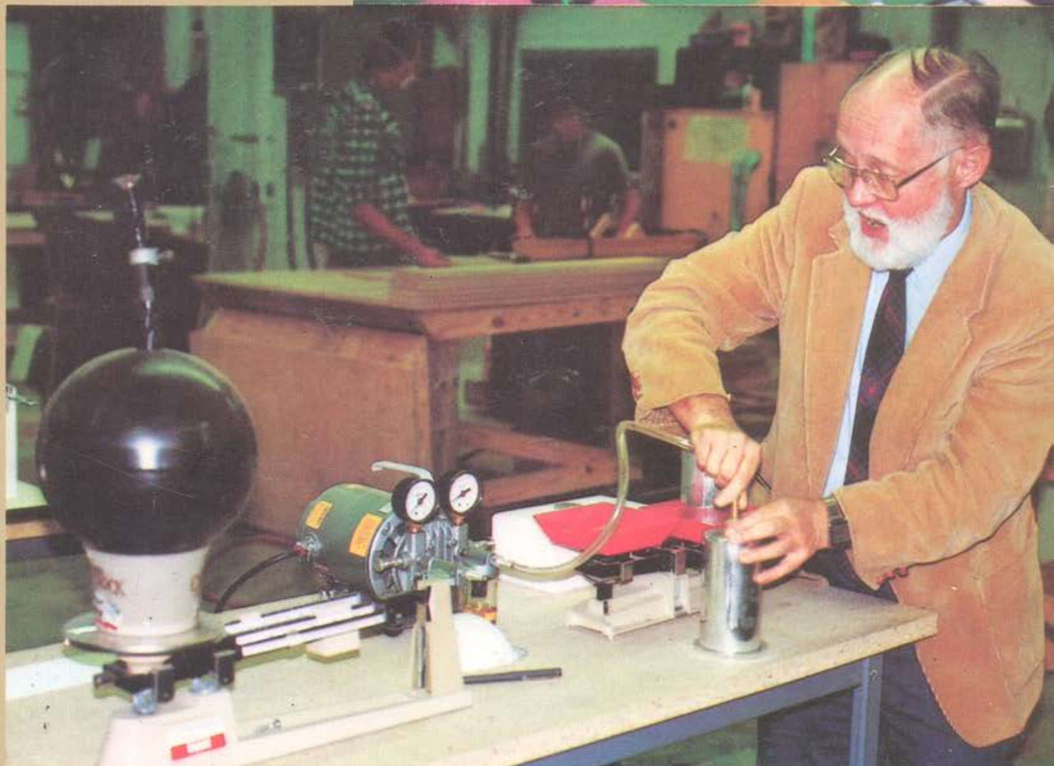
ICOM Executive Committee



NTERNATIONAL COLLABORATION

षद ने आइ सी ओ एम एशिया-प्रशांत संगठन को नयी जगह दी है ।
रिषद के महानिदेशक डॉ सरोज घोष की अध्यक्षता में संगठन का
लय 1989 में टोकियो से कलकत्ता आ गया । कुछ महत्वपूर्ण
जनाओं—मसलन दुनिया भर के मध्य क्रम के संग्रहालय कर्मियों के
मृद्ध करने वाला प्रशिक्षण, संग्रहालय प्रशिक्षण के लिए एशियाई
टरी का प्रकाशन, आइ सी ओ एम समाचार, आइ सी ओ एम शिक्षा
छ अन्य महत्वपूर्ण समाचार प्रपत्र पर काम हो रहा है ।
र्च 1989 में पेइचिंग में संगठन के बोर्ड की बैठक में त्रैवार्षिक कार्यक्रम
रेखा तैयार की गयी, जिसमें एशिया-प्रशांत क्षेत्र में अधिक सहयोगिता
मों पर जोर दिया गया ।
-4 अक्तूबर, 1989 के दौरान रसायन प्रदर्शों पर एक लाभदायी
य-अमेरिकी कार्यशाला लॉरेंस हॉल ऑफ साइंस तथा द
लारेटोरियम में आयोजित की गयी । उस वक्त आये कुछ विचारों पर
में क्रियान्वयन हो रहा है ।
षद द्वारा विकसित विशाल विज्ञान प्रदर्शनी 'भारत : विज्ञान की एक
कम से कम तीन वर्षों के लिए यूरोप जायेगी । पहली प्रदर्शनी पेरिस
वंबर, 1990 से 31 मार्च, 1991 तक आयोजित की जायेगी ।

CSM has provided a new home for the ICOM Asia-Pacific
anisation. Under the chairmanship of Dr
j Ghose, the Director General of NCSM,
headquarter of the Organisation has been
ted from Tokyo to Calcutta, in 1989. Some
mentous projects like Enrichment Training
middle level museum professionals of the
ld over, publication of the Asian Directory
Museum Training, ICOM News, ICOM
ication and some other important newslet-
are in the offing.
he triennial programme drawn at the
anisation's Board Meeting at Beijing during
rch 1989 emphasises on more co-operative
grammes in the Asia-Pacific region.
very fruitful Indo-US Workshop on
emistry Exhibits was held at the Lawrence
l of Science and The Exploratorium during
ober 2–4, 1989. Some of the ideas conceived
re are already in implementation at NCSM.
India : A Glimpse of Science", a grand
nce exhibition developed by NCSM, will
Europe for a period of at least three years.
first exhibition will be held in Palais de la
ouverte in Paris from November 1, 1990 to
rch 31, 1991.



Mr William Walton of Science Museum, Virginia demonstrating prototype exhibits



Meeting of the Indo-US Sub-Commission on Education and Culture



COVER

During the year 1989-1990 the nation celebrated the birth centenary of two great visionaries of the country—Prof. C V Raman and Pdt. Jawaharlal Nehru. NCSM paid tributes to them through a series of year-round activities by taking science to the heart of the people.

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